

ABSTRACT

There is provided a semiconductor device structured so as to be mounted jointly with other devices on one chip, and capable of controlling a large current in spite of a small device area while having small on-resistance, thereby enabling a high voltage resistance to be obtained. In the case of NLDMOS, the semiconductor device comprises an N well layer, formed on a p-type semiconductor substrate, a P well layer formed in the N well layer, a source electrode formed in a source trench cavity within the P well layer, a gate electrode formed in at least one of gate trench cavities within the P well layer, through the intermediary of an oxide film, and a drain electrode formed in a drain trench cavity within the N well layer, and further, N + diffused layers are formed around the source trench cavity, the drain trench cavity, respectively.